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ABSTRACT

This paper discusses a study that sought to design an instrument for assessing the nonverbal ability of foreign language learners. The subjects were 28 educated Japanese non-native speakers (NNS) of English and 20 educated North American native speakers (NS) of English. Materials used were the institutional Test of English as a Foreign Language (TOEFL) for linguistic proficiency, the SPEAK test for oral proficiency, and a series of four role plays for the collection of nonverbal data. Proficiency tests were administered to NNS subjects paired according to the results of the TOEFL. NNS and NS subjects performed the three plays in pairs and the fourth with the researcher's NS assistants. Role plays were transcribed and coded for three nonverbal behaviors, head nods, gaze direction changes, and gestures. Descriptive statistics, including reliability and standard error of measurement for the proficiency tests were calculated for the two tests and three nonverbal behaviors in role plays 2 and 3. A significant difference was found for head nods in role play 4. A set of scales for assessing nonverbal ability was constructed on the basis of the quantitative and qualitative analysis of the nonverbal behaviors in the role plays. Results of the study indicate that it is possible to define degrees of nonverbal ability. (Author/JL)

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Assessing the Nonverbal Ability of Foreign Language Learners

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Running Head: ASSESSING NONVERBAL ABILITY

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Abstract

This study attempts to design an instrument for assessing the nonverbal ability of foreign language learners. The subjects are educated Japanese non-native speakers of English (n=28) and educated North American native speakers of English (n=20) for baseline data. Materials used were the institutional TOEFL for linguistic proficiency, the SPEAK test for oral proficiency, and a series of four role plays for the collection of nonverbal data. Proficiency tests were administered to NNS subjects who were paired according to the results of the TOEFL. NNS and NS subjects performed the three role plays in pairs and the fourth with the researcher's NS assistants. Role plays were transcribed and coded for three nonverbal behaviors, head nods, gaze direction changes, and gestures. Descriptive statistics, including reliability and standard error of measurement for the proficiency tests, were calculated for the two tests and three nonverbal behaviors in role plays 2-3. A MANOVA was performed for the main effect Group for the three nonverbal behaviors in three role plays. A significant difference was found for head nods in role play 4. A set of scales for assessing nonverbal ability was constructed on the basis of the quantitative and qualitative analysis of the nonverbal behaviors in the role plays. The results of this study indicate that it is possible to define degrees of nonverbal ability.

Assessing the Nonverbal Ability of Foreign Language Learners

The accurate assessment of oral proficiency in a foreign language can be crucial for non-native speakers of English who need favorable evaluations for general academic purposes at American universities, for employment, to work as teaching assistants at American universities, or for other purposes which require a specified level of English proficiency. A variety of scales and testing methods such as the Foreign Service Institute (FSI) interview and its derivative ACTFL/ETS guidelines have been created to assess oral proficiency but these have also been criticized for their narrowness as norm-referenced tests (Bachman, 1990) or for being no more than discrete-point tests without a basis in theory or research (Bachman, 1988; Bachman & Savignon, 1986).

With the expansion of our framework for communicative competence (Canale & Swain, 1980; Canale, 1983), there has been a need for improving oral proficiency evaluation using the communicative paradigm. Along these lines, Bachman and Palmer developed an oral interview test (Bachman & Palmer, 1983) in an attempt to account for more of the reliable variance in the learner's oral proficiency than existing measures (Bachman & Palmer, 1982) in terms of what Bachman (1988, 1990) refers to as Communicative Language Ability (CLA).

However, even Bachman and Palmer's test relies solely on the

vocal channel for its evaluation of oral proficiency in spite of recent calls to pay more attention to nonverbal behavior as an integral part of speech (von Raffler-Engel, 1980; Baird, 1983) and clear indications that nonverbal behaviors are part of the sociolinguistic and strategic competence components of communicative competence (Canale, 1983; Canale & Swain, 1980).

In general, language testing experts have neglected nonverbal behavior. Bachman's (1990) major work on language testing does not include nonverbal behavior under sociolinguistic competence and it notes that strategic competence definitions

> include non-verbal manifestations of strategic competence, which are clearly an important part of strategic competence in communication, but which will not be dealt with in this book. (p. 100)

Problems which may be related to intercultural differences in the use of nonverbal behaviors can, however, affect the rating of a second language learner's oral language proficiency causing them to be rated either higher or lower than their actual language proficiency level (Nambiar and Goon, 1993; Neu, 1990). As Baird (1983) puts it,

> ...the importance of nonverbal behavior in overall communication effectiveness is obvious, and the difficulties in assessing the skills involved should not blind us to their significance. (p. 33)

Nonverbal communication (NVC) is commonly considered "communication effected by means other than words" (Knapp & Hall, 1992). It has also been defined as the influencing of another person by means of facial expression, tone of voice, gaze, gestures, posture, bodily contact, spacial behavior, clothes or appearance, nonverbal vocalizations, or smell (Argyle, 1988). These nonverbal behaviors are also often interpreted through verbal signs, an indication of the importance of viewing verbal and nonverbal communication as opposite ends of a continuum with some overlap between the two (Knapp & Hall, 1988). Thus, while they may be independent at the extremes of the continuum, there are instances where they are meaningfully integrated.

It is useful, then, to consider the role of NVC in terms of this relationship with spoken language. Nonverbal vocalizations, gestures, facial expressions, and gaze are integrated with words and can "amplify and disambiguate them" (Argyle, 1988, p.106). Until as recently as ten years ago, however, there were no studies which dealt with the interactional nature of NVC (Kendon, 1984).

Gestures, for example, serve a number of roles in relation to speech, replacing it or alternating with it in a variety of ways (Kendon, 1984). Nods and gaze behavior serve to regulate interactions as nonverbal backchanneling signals or turn-taking signals. Nonverbal communication also plays a part in making up for the inability to communicate something verbally due to

linguistic deficiencies, as in strategic competence (Canale, 1983).

While NVC can be described separately from spoken language and often has specific meaning independent of language (Ekman, 1976), it is the integration of language with nonverbal behavior that is most important for assessing language learners' proficiency. Kendon (1984) and McNeill (1985) both note that nonverbal behavior such as gestures shares the planning process with speech and thus is not really completely nonverbal. In other words, rather than being a separate system of communication, NVC is viewed here as an integral part of verbal communication.

The appropriate use of some nonverbal behaviors (in particular gestures, head nods, and gaze, which ameliorate the interaction process as backchanneling or turn-taking signals) can also be included under textual competence in Bachman's (1990) CLA model as "ways in which interlocutors organize and perform the turns in conversational discourse..." (p. 88). Edmondson (1981) also notes the importance of NVC in discourse in his observation that eye contact, for example, may be more important than speech for successful conversational development. The use of nonverbal behavior may even provide a key to the learner's proficiency level since, as Færch, Haastrup, and Phillipson (1984) point out,

> ...the activation of strategic competence presupposes an inability to make use of parts of linguistic or pragmatic competence. (p.168)

The level of use of NVC for strategic, compensatory purposes may provide a clue to the learner's level of proficiency with greater use indicating lower or inadequate linguistic proficiency.

Appropriate use of NVC will also include such issues as its synchrony with the speaker's own speech and with that of the interlocutor, which can be seen in terms of Bialystok's control dimension (Bialystok, 1990; Bialystok & Sharwood Smith, 1985). It is expected that lower oral proficiency learners will have poorer synchrony or coordination due to their lower ability, affecting the coordination of the verbal and nonverbal planning mentioned above (Kendon, 1984; McNeill, 1985). As Færch and Kasper (1984) note,

> ...advanced learners, who are capable of planning longer units, can often predict a communicative problem well in advance and attempt to solve it beforehand, as part of the normal planning process. (p.60-61)

Any planning deficiency at lower levels then could also be reflected in the learner's use of nonverbal behaviors. Frequent pauses accompanied by diverted gaze by a language learner could be interpreted as a sign of lower proficiency when the actual content of the discourse is such that it would not place an excessive burden on the average learner's oral proficiency.

The testing of nonverbal ability in conjunction with

linguistic and oral proficiency should concentrate on nonverbal features that are closely integrated with speech. The Communication Competency Assessment Instrument (CCAI) which was developed to assess the basic communication skills necessary for success at an American college (reported in Rubin, 1982) includes "use of nonverbal signs appropriate for the situation" (p. 21) as one of 19 competencies needed in an educational context. Developed as an alternative method for assessing academic skills, the CCAI included assessment of the ability to recognize and use appropriate gestures, eye contact, and facial expressions in academic situations.

Generally speaking, any scale for evaluating the nonverbal behavior of speakers of English as a foreign language should also consider gestures (including head movement) and gaze direction. Such a scale should therefore include some of the most important functions of NVC such as backchanneling, which is often used differently by native English speakers and people from other cultures (Maynard, 1987; Maynard, 1990; White, 1989). Japanese, for example, use head movement as a nonverbal backchannel signal more often and differently from Americans when speaking Japanese as well as in intercultural discourse in English (Maynard, 1990).

Nonverbal behavior can also be described in terms of textual use, which involves the appropriate or acceptable use of nonverbal

behaviors to manage turns in conversational discourse, and strategic use, which involves compensatory behavior to make up for deficiencies in linguistic proficiency or otherwise clarify verbal messages. The three types of nonverbal behavior under the two categories of textual and strategic use can be used to assess nonverbal proficiency in conjunction with tests of oral proficiency:

TEXTUAL USE

Gestures

- Hands are used by the speaker to emphasize speech.
- Vertical head movement (nod) is used as a backchannel signal by the listener to indicate attention, understanding, or agreement.
- Vertical head movement (nod) is used by the speaker as a within-turn or turn-end signal.
- Horizontal head movement (shake) is used by the listener to indicate disagreement or to accompany laughter.

Gaze

- Listener-directed gaze is used at the end of an utterance to elicit a backchannel response.
- Terminal gaze (prolonged gaze starting just before the end of an utterance) is used to signal the end of the utterance.
- Speaker-directed gaze is used to signal attentiveness.

Facial Expressions

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- Smiles are used to indicate attention or agreement.
- Frowns are used to indicate disagreement or lack of understanding.

STRATEGIC USE

Gestures

- Mime (hand gestures) is used to compensate for a linguistic deficiency such as the lack of a necessary lexical item.
- Hand gestures are used to support spoken language to communicate spacial relationships and physical shapes which are not always easily understood using spoken language alone.

This list of nonverbal behaviors is limited to hand gestures, head movement (nods), gaze direction in relation to the interlocutor, and facial expressions as behaviors which can be easily observed and rated by a language teacher. It is not, therefore, meant to be a complete list of nonverbal behaviors, but rather a short list of behaviors in which differences may be readily observed and may vary as a result of differences in the oral proficiency level or cultural background of the learner. Furthermore, while such a list gives the impression that these are discrete behaviors, there is a degree of integration among the nonverbal behaviors themselves. Nonverbal backchanneling, for example, may include a nod at the listener accompanied by listener-directed gaze. This list is meant to simplify and focus the rating task by grouping behaviors according to their role in

discourse.

The purpose of this study, then, is to develop scales for assessing foreign language learners' nonverbal ability as a component of their oral proficiency. In order to develop a method for assessing nonverbal ability in a English as a foreign language, the following research questions will be addressed.

1. What nonverbal behaviors (such as gestures, gaze, and facial expressions) do native speakers (NS) and non-native speakers (NNS) use?
2. How do NNS nonverbal behaviors differ from those of NSs in similar situations?
3. If NNSs do exhibit different nonverbal behaviors from NSs, to what extent is this related to oral L2 proficiency?
4. To what extent is it possible to identify degrees of nonverbal proficiency?

Method

Subjects

The subjects in this study are 28 non-native speakers and 20 native speakers of English. The non-native speakers are educated middle-class Japanese male and female EFL learners consisting of 24 students, two faculty members, and two office staff members of a Japanese university. The native speakers are 20 educated white middle-class North American males and females who are EFL teachers or graduate students in TESOL at a Japanese branch of an American

university in Japan. They provide the baseline data for nonverbal behaviors.

The Japanese subjects were recruited using a poster placed on a university bulletin board and also directly from among the researcher's students, the office staff, and the faculty in exchange for a free administration of the TOEFL. While a random sample would be desirable, this sample is ecologically valid since those who are required to take oral proficiency tests generally self-select into the programs or situations which require the tests. While such a sample presents potential problems for statistical analysis, the subjects do reflect the type of person who would actually be tested in this situation.

Instruments

Instruments used in this study are the Test of English as a Foreign Language (TOEFL) as a general English proficiency measure, the Test of Spoken English (TSE) as a measure of oral proficiency, and a series of role plays developed by this researcher to elicit data for the development of nonverbal ability (NOVA) scales.

TOEFL

The Institutional Testing Program (ITP) version of the Test of English as a Foreign Language was used to assess overall English proficiency because of its generally high reliability of r=.95 and validity. The TOEFL meets the criteria of content validity for the university setting of this study with its academic content, and as

a test of linguistic competence it is appropriate for its construct validity. Its high correlations with other measures of English proficiency (ETS, 1992) gives it a high degree of criterion-related validity.

TSE

Oral proficiency was measured with Test Form 1 of the Speaking Proficiency English Assessment Kit (SPEAK) version of the Test of Spoken English (TSE), a "semidirect" measure of oral proficiency which rates pronunciation, grammar, fluency, and overall comprehensibility. Interrater reliability of the TSE has been shown to range from .87 to .92 for the four categories of ratings (ETS, 1990). Content validity is met since the TSE was developed so that the items chosen would reflect performance on similar items on the TOEFL and Foreign Service Institute (FSI) oral proficiency interview. Criterion-related validity is supported by studies which have shown it to correlate well with the FSI rating of oral proficiency at .79 (ETS, 1990).

Role Plays

Nonverbal data was elicited using four role plays performed in English (two repeated in Japanese as explained below in Procedures). The first role play between two friends was used as a warm-up and to reduce the reactivity effect of the video cameras. Since some subjects had never performed role plays before, this informal format was easier for them to begin with. The following

two role plays were between unequals in an interview format (a language school interview and a part-time job interview) since many oral proficiency tests have an interview format in which the interviewer is superior to the person interviewed. This NNS/NNS format also made it possible to compare these interactions with NS/NS interactions as well as NS/NNS interactions. In the fourth role play, the subject was required to make a request of a teacher for a letter of recommendation (see Appendix A for English versions of the role plays).

The role plays were in a format similar to the simulations used by Haastrup (1986) as part of what is called a "structured oral interview" (p. 76) for assessing oral proficiency. In this simulation, pupils were given an instruction card telling them that they were applying for a job and have been called for an interview. The cards also indicated in the pupils' native language what information would be required. This kind of test is widely used in Denmark to test English language students after five years of English instruction.

The role play format has content validity as a format which is used in oral proficiency testing (Bachman & Palmer, 1983; Haastrup, 1986) and to elicit data for discourse analysis (Edmondson, 1981; Kasper 1981), and it is expected to elicit the most natural NVC that can be expected in a testing situation.

Video recordings of the subjects performing the role plays in

English and Japanese (for Japanese subjects) were used to analyze nonverbal behavior and to provide the basis for the development of the scale for measuring nonverbal ability.

Procedures

The English versions of the role plays in the Appendix A were piloted with native speakers and Japanese university students. As a result of the initial piloting, it was decided to have the subjects sit facing each other with a table between them and to take the role play cards away from the subjects before beginning because frequent referral to them inhibited the naturalness of the conversations as well as the nonverbal behavior itself. The contents were then revised and translated into Japanese so that the subjects' understanding of the role plays would not depend on their English proficiency and so that the language they used would come from their own English ability and not from the cards. This would also insure that the strategic use of NVC would be elicited for unknown vocabulary. Subjects performing the pilot role plays, for example, did not know how to say "letter of recommendation" for role play 4. Almost all of them mimed the shape of a piece of paper while explaining what they needed.

The Japanese translations were checked by a Japanese English teacher and piloted with another pair of Japanese university students. In this piloting, the subjects repeated the two interview role plays in Japanese after performing the final English

role play individually with a native speaker. This piloting showed that subjects could easily perform the role plays in the allotted time and would not need another warm-up role play in Japanese before the Japanese performances.

The institutional TOEFL was administered to the subjects together in a classroom at their university by an experienced TOEFL supervisor. The SPEAK Form 1 version of the TSE was administered individually to each subject in the researcher's office according to the instructions supplied with the test. The researcher remained in the room to observe them and assist if there were any problems. The recordings of these tests were rated by two experienced native speaker EFL teachers according to the TSE guidelines.

The subjects were paired according to their TOEFL scores to insure that there would be as equal a linguistic burden as possible between subjects when performing the role plays. They performed the role plays in the researcher's office, where they also took the TSE, seated facing each other with a small table between them. Their performances were recorded using two video camcorders placed unobtrusively pointed at less than 45 degree angles toward each subject. After the subjects were seated, they were given the Japanese versions of the role play instructions shown in Appendix A. After signifying that they understood, they were given the role play cards for role play 1 (warm-up role play) between two friends.

The subjects were given four minutes to perform this and subsequent role plays and did have access to the cards during the performances.

After performing role play 2 (a language school interview) and role play 3 (a part-time job interview), which were designed to elicit equivalent data from both subjects by giving each a chance to play the status-higher role of the interviewer, each subject performed role play 4 (asking for a letter of recommendation) with the researcher's native speaker assistant who was an experienced EFL teacher. Finally, the subjects replayed role plays 2 and 3 in Japanese to enable the comparison for the subsequent study of their nonverbal behavior when speaking Japanese with their performances when speaking English. As previously stated, there was no warm-up for the Japanese performances.

Of the 15 NNS pairs originally performing the role plays, one subject was not included in the analysis because he was Chinese and another was excluded because his glasses prevented a clear view of his gaze direction. Their partners were included in the 28 subjects analyzed here.

The English versions of the role plays were performed as above with the 20 North American NS subjects to obtain baseline data on nonverbal behavior by NSs in similar situations. These were performed at facilities of their university and recorded using two video camcorders placed as with the NNSs. Another American NS

assistant performed role play 4 with each of the subjects. Additional instructions for the NS assistants are included in Appendix A.

The role plays were then transcribed using the discourse transcription (DT) method of Du Bois, Schuetze-Coburn, Cumming, and Paolino (1993). Based on the review of the nonverbal behaviors made during this transcription, nods, gaze direction, and gestures were chosen for analysis and coded according to a simple transcription system developed by the author and shown in Appendix B. Only the middle three minutes of each role play were coded for analysis to eliminate greetings and formulaic speech at the beginning and to assure that none of the pairs finished too early.

In this system, nods were coded as nodding occasions, meaning the performance of one or more nods as one nonverbal signal. Nodding occasions included eight of Maynard's (1989) 10 contextual categories of vertical head movement: as a backchannel continuer/pause filler with or without verbalization, as a continuer signal by the listener to the speaker, as a clause boundary or turn-end signal occurring simultaneously with speech, as a turn transition claimer or transition filler during pause only, with expressions of affirmation or agreement such as "yeah" or "uhuh," for emphasis, and as a preturn claim. Rhythmic nodding with speech was not counted.

Gaze direction was labeled as "toward" when the subject was

perceived to change gaze direction toward the interlocutor. It was labeled as "away" when when the subject was perceived to change gaze direction away from the interlocutor. Head direction was also used as a measure of gaze direction (Duncan & Fiske, 1985). For the purpose of analysis, only the number of changes in gaze direction toward the interlocutor were counted.

Gestures labeled included miming to compensate for linguistic deficiencies and gestures to support or enhance speech by indicating direction or location, spacial relationships, counting, shapes, and size. Gesturing for emphasis was not included. A brief description of the movement and meaning of the gesture was included in parentheses after the code for gestures.

Analyses

The dependent variable in this study is nonverbal behavior. The independent variables are linguistic proficiency measured by the TOEFL and oral proficiency measured by the TSE. The control variable is nationality with only Japanese subjects used for rating nonverbal ability. Potential moderator variables are sex, age, and years of English study.

Nonverbal Data

Nonverbal data was analyzed by observing the role play videos of the NNS subjects and NS subjects and noting similarities and differences among the NNS subjects' in the performance of the three nonverbal behaviors listed and comparing NNS and NS performances in

English. The three types of nonverbal behaviors which show potential for rating nonverbal ability were counted and a multivariate analysis of variance (MANOVA) was carried out to determine if there was a significant difference between the mean number of occasions for the NNS and NS subjects' nonverbal behaviors in each of the role plays. The results for role plays 2 and 3 were averaged for the purpose of analysis resulting in three nonverbal scores for each type of interaction: NNS/NNS and NNS/NS assistant for Japanese subjects and NS/NS and NS/NS assistant for baseline data subjects. This averaging was carried out to compensate for differences which may have been a result of the alternating roles in role plays 2 and 3. Although gaze direction while listening has been found to be consistent among members of the same culture in spite of individual differences (La France & Mayo, 1978), it may be affected by the speaker's identity (Kendon & Cook, 1969), and the amount of listening itself is affected by whether the higher- or the lower-status role is being played. The role play results for the Japanese language interactions are not included in this study.

Statistical Analysis

Data consist of interval scores from the TOEFL, the TSE ratings of pronunciation, grammar, fluency, and overall comprehensibility, and the counts of nonverbal behaviors in role plays, as well as reliability coefficients for proficiency tests.

Reliability

Reliability is an important measure for assuring the consistency of testing instruments. Theoretically, high reliability means that test takers can be expected to receive similar scores on repeated administrations of the test. Lower reliability means a greater range of difference in possible scores for such repeated administrations. Reliability for the TOEFL for these subjects was calculated using Cronbach's alpha coefficient for internal consistency. Interrater reliability for the TSE was calculated using Pearson correlation corrected with the Spearman-Brown prophecy formula used as suggested by Brown (1992) for decision reliability.

Validity

While reliability is an important quality for a good test, it is of no use without validity, which is the extent to which a test actually measures what it claims to be measuring. As previously stated, the validity of the TOEFL and TSE are well established. They appear to measure what they claim to be measuring and correlate well with other measures of the same constructs, establishing criterion-related reliability.

Nonverbal data collection is based on descriptions of nonverbal behaviors found in the literature and supported by baseline data gathered from native speaker subjects, thus demonstrating content validity.

Other statistics

Other statistics will include descriptive statistics (mean, range, standard deviation, and standard error of measurement) for the TSE ratings and TOEFL scores.

Results

Table 1 shows the descriptive statistics for the TOEFL and SPEAK test. As expected, the results of these tests are generally normally distributed and reliable measures of proficiency with the exception of the SPEAK grammar section which includes only two scores for grammar, making it a poor measure for lower proficiency subjects who may score zero on one or both parts of this section.

Insert Tables 1 and 2

and Figure 1 about here

Table 2 shows the descriptive statistics for the number of occasions of head nodding, gaze toward the interlocutor, and meaningful gestures in role plays. The distributions are generally normal, with the exception of gesture distributions which is positively skewed. At least one subject in each type of interaction performed a number of gestures that was well above the mean. Figure 1 shows the mean number of occasions graphically. There is a clear difference in the means for all behaviors in each role play with a consistently greater number of NNS nods in NNS/NNS

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and NNS/NS interactions and a greater number of gaze direction changes toward the interlocutor and gestures in NS/NS interactions.

Since the MANOVA for the Group main effect was found to be significant, $F(6, 41) = 5.412$ for the Pillais, Hotellings, and Wilks' lambda tests of significance at $p < .0001$, univariate ANOVAs were explored for each nonverbal behavior in each type of interaction. The effect for Group was significant ($F=27.604$; $df=1/46$; $p<.0001$) for head nodding in role play 4, a finding consistent with Maynard's (1987, 1990).

Discussion

Several of the findings here provide possible insights which contribute to the preliminary drafting of a set of scales for assessing nonverbal ability. There is, however, a significant difference between a nonverbal rating scale and one which concentrates on oral proficiency. In the case of oral proficiency, the rating will concentrate on production, as in the case of the SPEAK test used here, while leaving the measurement of receptive skills to written tests such as the TOEFL. Nonverbal communication, on the other hand, is unique in that it covers both reception and production in a given interaction and it is not always accompanied by speech.

As for what behaviors NNSs and NSs use in similar situations, this study found through quantitative and qualitative analysis that vertical head nodding, gaze direction, and hand gestures would be

the most revealing behaviors because they are easy to observe and interpret and because they occur frequently even in a limited three-minute period for both NS and NNS interactions.

In addition, NNS behaviors are different from those of NS subjects in this study. The number of NNS nods, as to be expected, were significantly greater in NNS/NS interactions and slightly greater even for NNS/NNS interaction, though not significant. What makes this a very ratable behavior is not only the frequency but also the nature of the occasions in which they occur. This culturally-based difference can be seen in differences in backchanneling (Maynard, 1987, 1989, 1990: White, 1989), as follows:

(1) (Role Play 4 - Request for Recommendation, NS4A)[1]

Professor: How long will it take you?

Student: um,
A
..I figure,

two years.
T N
...

Professor: Probably.

(2) (Role Play 4 - Request for Recommendation, NNS13A)

Professor: these are all important things.

Student: Uhuh.
N
Professor: uh,

Maybe you could write down just,

your basic,
A
uh,

your schooling,
N
and,

(3) (Role Play 4 - Request for Recommendation, NNS12B)

Professor: when do you want me,

to write the letter.
A
...next week,
T N
or,

next [month]

Student: [ah],

Yeah.

um,
A
...Next month,
T N
[and],
A

Professor: [By next] month.

The NS in example (1) had approximately the average number of head nods for baseline data subjects. This subject had no examples of backchannel head nodding. Most nodding was for emphasis or as a turn-end signal, as in this example. The NNS subject in example (2) was a high oral proficiency subject with a less than the average number of head nods. This subject had examples of turn-end nods, and nods with expressions of affirmation

or agreement such as "yeah" or "uhuh," which occur frequently in NNS data. The NNS subject in example (3) was a low oral proficiency subject who had slightly more than the average amount of head nodding for NNS subjects. There was frequent nodding as a backchannel/continuer signal without verbalization while listening as well as with affirmation or agreement. Of course, the oral data itself did differ between proficient and less proficient subjects. NS and higher oral proficiency subjects spent less time listening and more time talking in role play 4 than lower oral proficiency NNSs because they understood what the professor was asking them.

As for gaze direction, while there are similarities between NS and NNS subjects for frequency of changes and certain types of usage, there are greater differences between higher and lower oral proficiency subjects. Examples (1) and (3) above illustrate how both NS and NNS speakers precede the answer to a question with a question with a filled pause, "um," accompanied by a gaze change away. Usually the next gaze change toward comes at or near the beginning of the answer. Lower oral proficiency subjects often delay their gaze change toward the interlocutor, as follows:

(4) (Role Play 4 - Request for Recommendation, NNS15B)

Professor: Do you have any hobbies.

Did you belong to a club.

A

Student: I,

I belong to,

...table tennis club.
T *N*

Professor: Uhuh.
N
Mhm.

In America they call table tennis ping pong.

This lower proficiency subject looks away at the end of the rephrased question by the researcher's NS assistant and does not change direction toward the interlocutor until the end of the answer. This could be related to control variability (Bialystok & Sharwood Smith, 1985), affecting the synchrony of gaze direction and speech due to the learner's uncertainty over what form of language is appropriate. Gaze away is usually a sign of thinking, therefore prolonged gaze away may be sign of the learner's lower proficiency, and frequent and long occasions of gaze away could be rated as a sign of "lower" nonverbal ability.

Differences between NSs and NNSs for hand gesturing to enhance speech or to compensate for linguistic deficiency cannot be interpreted only on the basis of simple counting and comparisons of means. Content and success are also important factors.

NSs did not necessarily use hand gestures. Two out of 20 baseline data subjects did not gesture in any of the role plays as compared to three out of 28 NNS subjects. The two major differences between NSs and NNSs, aside from compensatory usage by NSs, was the variety and type of gestures used. Frequency itself is not an indicator. One NNS used hand gestures pointing at his

own chest nine times to indicate "I," "my," or "me" out of a total of 11 hand gesturing occasions. The other gestures were pointing at the NS assistant for "you" and holding up four fingers while saying "four years." While NSs sometimes pointed at their chest for "I," the NNSs overuse could be considered inappropriate by native speaker norms. Interestingly, although it was expected that some of the NNSs would point at their noses for "me" as is often encountered in Japan, none of these subjects did.

One lower proficiency subject used hand gestures 18 times, four times for "me" and twice for "you." The rest of the gestures were for direction or miming the shape of a "letter of recommendation" or the act of writing. It is interesting that the researcher had earlier thought that this subject was more proficient, until very low scores on the TOEFL and SPEAK test suggested otherwise. The subject's use of gaze direction and head nodding also seemed to be more appropriate by native speaker standards.

Success or failure at an attempt to use mime as a compensatory strategy can also be seen as an indicator of the learner's level of nonverbal ability, as follows:

(5) (Role Play 3 - Convenience Store, NNS6A)

Student: um,

...What situation.

Manager: um,
A
...(6)<L2 nan to iu L2> ((What do you say?))
G(mimes carrying something with both hands)
Student: Ca- carry.

Manager: Carry.
T N

During a long pause, the subject playing the manager cannot think of a lexical item. Before reverting to code switching, she begins to mime the word that she cannot think of. The subject accepts the interlocutor's interpretation, indicating that the gesture for compensatory purposes was successful. If the interlocutor had not supplied an acceptable word, this example would be considered a failure.

Thus, while the performance of some kinds of nonverbal behavior are related to language proficiency, there are exceptions to this, as Neu (1990) has pointed out. This supports the idea that nonverbal ability can be treated as a separate construct from linguistic proficiency. For testing purposes, nonverbal ability can be integrated into Bachman's (1990) CLA model as shown in Figure 2.

Insert Figure 2 about here

As a result of the quantitative and qualitative analysis carried out in this study, a set of scales for assessing nonverbal

ability can be constructed as shown in Table 3.

Insert Table 3 about here

Under textual ability, looking away and infrequent nodding are associated with lower textual ability for frequency, and backchanneling frequently and at every pause such as Japanese speakers do would be associated with lower textual appropriateness. Under strategic ability, compensatory usage will be rated according to need to use and successful performance, while the rating for appropriateness would depend on how often gestures are used and the content of the gesturing. The subject who gestured for "me" frequently and occasionally pointed at his or her nose would be rated lower for appropriateness.

Conclusion

This study has investigated the possibility of assessing the nonverbal ability of foreign language learners. It has demonstrated that:

1. Vertical head nods, gaze direction changes, and gestures are nonverbal behaviors that are used meaningfully by both NSs and NNSs in similar situations.
2. These nonverbal behaviors differ in frequency, in their synchrony with speech, and in content between NSs and NNSs.
3. The use of these nonverbal behaviors by NNSs can differ

according to oral L2 proficiency.

4. Degrees of nonverbal ability can be identified and applied to a meaningful rating system.

As a pilot study, there are limitations to the scales outlined here. Only three behaviors are applied here. This study did not include horizontal head movement (shake), facial expression, posture, or interpersonal distance. The three behaviors chosen, however, can be easily observed by raters. These scales are meant for research purposes, therefore only one cultural group was used as a control for data collection. Much work remains to be done before this can be applied outside of research, especially in the area of norms.

The next step is to test the test. By applying these scales to the NS/NNS data in this study using independent raters, it will be possible to answer the questions of whether the scales are reliable and whether nonverbal ability is an independent construct from linguistic and oral L2 proficiency.

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Appendix A – English Versions of Role Plays

Role Play Instructions

You will be asked to perform a number of role plays. Read each situation and imagine that you are really the person in the role play. Specific details are not given, but try to speak in as much as detail as possible.

Role Play 1 (Warm-up)

Role A: You are at the school cafeteria talking to a friend who is very good at Japanese. You want to borrow some books from a friend so that you can study Japanese.

Role B: You are at the school cafeteria talking to a friend who wants to study Japanese. You are very good at Japanese so your friend wants to borrow some books from you to study. Offer your friend some books and try to give some advice for studying Japanese.

Role Play 2

Role A: You are a student applying to enter an English language school. You are being interviewed by one of the teachers. Answer the teacher's questions about yourself, your interests, and your reasons for studying English in as much detail as possible.

Role B: You are a teacher at an English language school. You must interview an applicant to evaluate his speaking

ability. First, ask the applicant basic background questions (name, birthplace, etc.). Then, ask about interests, language learning experience, and reasons for studying English. Ask in as much detail as possible.

Role Play 3

Role A: You are the manager of a convenience store. You must interview a student for a part-time job. First, ask the applicant basic background questions (name, birthplace, etc.). Then, ask about interests, working experience, and reasons for wanting to work at your store. Ask in as much detail as possible.

Role B: You are student applying for a part-time job at a convenience store. You are being interviewed by the manager of the store. Answer the manager's questions about yourself, your interests, and your reasons for wanting a job at the store. Answer in as much detail as possible

(Role Play 4 is performed individually by both subjects with a native speaker)

Role Play 4 - Non-native Speaker

Role A/B: You want to apply to an American university's graduate school to study in your major. You need a letter of

recommendation from your teacher. You go to your teacher's office to ask him for one. Be ready to explain why you need the letter, what information it should contain, when you need it, and what your teacher should do with it in as much detail as possible.

Role Play 4 - Native Speaker

Role B/A: You are a professor at a Japanese university. A student comes to you to ask for a letter of recommendation so that he can study at an American University. Ask the student why he wants to study abroad, what information the letter should contain, when he needs it, and where he should send it. Try to get the student to explain in as much detail as possible.

Instructions for NS Assistant

1. Greet the student: "Hi, (name), what can I do for you?"
2. Remember. You do not know what the student wants beforehand.
3. Help the student speak, but do not put words in his/her mouth. The burden to communicate should be on the student as long as pauses are not too long. Be patient.
4. If the student does not give instructions about the letter of recommendation, ask questions about why he/she wants to study abroad, the information to be contained in the letter, when it is needed, where to send it, and so on.

5. You will have four minutes for the role play, but do not worry about the time. If there is time, close the conversation with small talk and a word of "good luck."

Appendix B - Transcription Symbols

Discourse Transcription (Du Bois, et. al., 1993)

Units	
Intonation unit	{carriage return}
Truncated intonation unit	--
Word	{space}
Truncated word	-
Speaker identity/ turn start	:
Speech overlap	[
Transitional Continuity	
Final	.
Continuing	,
Appeal	?
Pause	
Long	...(N)
Medium	...
Short	..
Latching	(0)
Vocal Noises	
Vocal noises	( ) THROAT, GULP, SWALLOW, SNIFF, COUGH, TSK (tongue click)
Laughter	@
Transcribers Perspective	
Researcher's comment	(( ))
Uncertain hearing	<X X>
Indecipherable syllable	X
Specialized notation	
Nontranscription line	$

Code switching	<L2 L2>
Marginal words	
hesitation	uh, unh, um, er
backchannel	hm, m, huh, hunh
affirmation (bc)	mhm, unhhunh, uhuh, oh, ah
negative bc	unh-unh
Nonverbal Transcription	
Role identity	a) *b) (subject B: symbols are in italics)*
Nonverbal notation	
Hand gestures:	G ("brief description")
Head Movement	
Head nods:	N
Gaze	
Gaze in direction of interlocutor	T
Gaze away from interlocutor	A

Author Notes

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All errors and inconsistencies are the responsibility of the author. All inquiries about this research should be sent to the author at Ryutsu Keizai University, 120 Hirahata, Ryugasaki City, Ibaraki 301, Japan.

Footnotes

[1] All examples are preceded by the number of the example, the title of the role play, and the subject number preceded by NS or NNS. Coding is made at the approximate onset of each occasion. Duration is not included. Nonverbal notes apply to the subjects for listening and speaking and are not included for the NS assistant's behavior. See Appendix B for nonverbal transcription symbols.

Table 1 Descriptive statistics for proficiency tests

	TOEFL				SPEAK			
	Pt. 1	Pt. 2	Pt. 3	Total	Pron.	Grammar	Fluency	Comprehensibility
N = 28								
Mean	41.07	39.46	40.43	403.21	1.15	1.01	1.07	111.21
SD	4.77	8.07	7.52	59.66	.49	.65	.44	46.30
Low-high	32-52	26-57	28-60	310-553	0.3-2.2	0-2.3	0.3-2.15	30.5-210
r_{α}	--	--	--	.93				
r_{xx}*					.94	.97	.94	.98
SEM	--	--	--	15.78	.12	.11	.11	6.55

* Corrected with the Spearman-Brown prophecy formula

Table 2 Descriptive statistics for nonverbal behaviors in role plays

	Nods				Gaze				Gestures			
Role Play:	2	3	3/4	4	2	3	3/4	4	2	3	3/4	4
Native Speakers (N = 20)												
Mean	20.550	21.40	20.975	15.200	21.45	21.750	21.600	24.800	3.550	3.200	3.375	5.600
SD	6.461	11.04	6.290	6.202	12.65	9.767	8.433	7.527	3.735	3.458	2.687	4.587
Low-high	8-35	7-43	7.5-33	6-29	4-51	6-44	8-39	14-48	0-13	0-13	0-8	0-16
Range	28	37	26.5	24	48	39	32	35	14	14	8	17
Nonnative Speakers (N = 28)												
Mean	21.750	23.390	22.571	30.89	17.710	18.500	18.107	23.320	2.107	2.714	2.411	4.179
SD	8.374	9.645	8.525	11.98	6.943	5.137	5.547	6.403	2.87	2.788	2.560	4.660
Low-High	4-34	5-38	7.5-36	14-61	7-37	10-30	8.5-33.5	14-37	0-9	0-10	0-9.5	0-18
Range	31	34	28.5	48	31	21	26	25	10	11	10.5	19

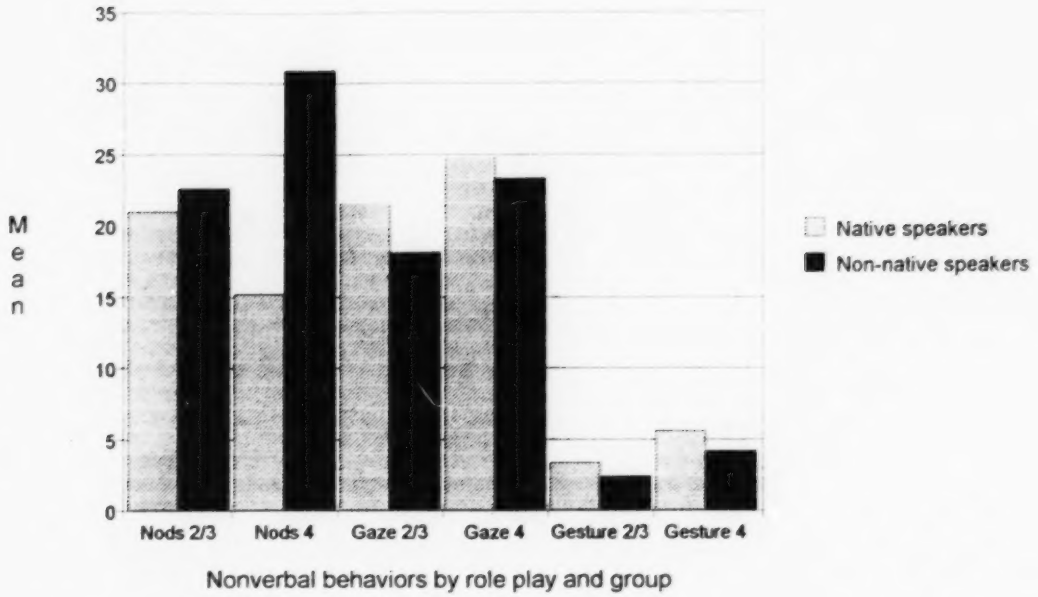

Figure 1 Nonverbal behaviors in role plays

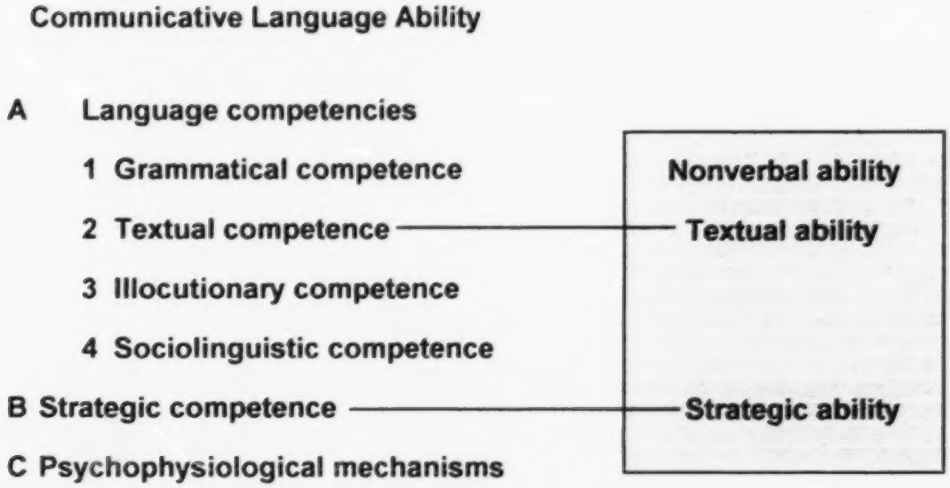

Figure 2 Communicative Language Ability (CLA) (Bachman, 1990) with a nonverbal component

Table 3 Scales of nonverbal ability (NOVA)

Textual Ability

Rating	Frequency	Rating	Appropriateness
0	Extremely limited use of head nods and infrequent changes in gaze direction toward partner in conversation	0	Totally inappropriate use of head nods and gaze direction by native speaker norms
1	Frequent use of head nods and changes in gaze direction that are not acceptable by native speaker norms	1	Frequent inappropriate use of head nods and changes in gaze direction
2	Frequency of head nods and changes in gaze direction approaches native speaker norms	2	Rare inappropriate use of head nods and changes in gaze direction
3	Frequency of head nods and changes in gaze direction acceptable by native speaker norms	3	Use of head nods and changes in gaze direction acceptable by native speaker norms

(Table Continues)

Strategic Ability

Rating	Compensatory Usage	Rating	Appropriateness
0	No evidence of hand gestures to solve considerable linguistic problems	0	Never uses hand gestures to support or enhance meaning
1	Limited use of hand gestures to solve linguistic problems with occasionally unsuccessful results	1	Occasionally uses hand gestures to support or enhance meaning, often inappropriately by native speaker norms
2	Hand gestures successfully used to solve linguistic problems	2	Use of hand gestures approaches native speaker norms
3	Rare linguistic problems requiring the use of hand gestures for compensation	3	Use of hand gestures appropriate by native speaker norms